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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/670,077	09/26/2000	Jenwei Hsieh	016295.0618	5720

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EXAMINER	
DUONG, FRANK	

ART UNIT	PAPER NUMBER
2666	

DATE MAILED: 07/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/670,077	HSIEH ET AL.	
	Examiner	Art Unit	
	Frank Duong	2666	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 March 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6 and 19-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6 and 19-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is a response to communications dated 03/21/05. Claims 1-6 and 19-24 are pending in the application.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims s 1-6 and 19-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Partridge et al (A 50-Gb/s IP Router, IEEE, pages 237-248, June 1998) (hereinafter "Partridge").

Regarding **claim 1**, in accordance with Partridge reference entirety, Partridge discloses a computer switching system (Fig. 1) comprising:

a module (*one of five switch cards; page 243, right column, first paragraph*); and

a switch (*Fig. 1; Switch*) operable to communicatively couple a plurality of devices (*Line Cards*), wherein the switch is operable to receive the a module (*page 245, right column, first paragraph, Partridge discloses "the switch is implemented as five identical data path cards plus one allocator card"*), and wherein the switch comprises a switching fabric (*Fig. 1*);

wherein the module (*one of five switch cards*) comprises one or more module routing components operable to communicatively couple the devices when the module is received by the switch, and wherein the module comprises at least a portion of the switching fabric (*see Fig. 1 for connections of line cards, switch cards*).

Regarding **claim 2**, in addition to features recited in base claim 1 (see rationales discussed above), Partridge further discloses wherein the switch further comprises one or more intermediate routing components (*other one of switch cards*) operable to communicatively couple with the module routing components when the module is received by the switch (*page 243, right column, Partridge discloses switch cards are implemented as source and destination cards. The recitation thereat reads on the claimed limitations in a manner as recited*).

Regarding **claim 3**, in addition to features recited in base claim 2 (see rationales discussed above), Partridge further discloses wherein the module routing components are the same type as the intermediate routing components (*page 243, right column, first paragraph*).

Regarding **claim 4**, in addition to features recited in base claim 2 (see rationales discussed above), Partridge further discloses wherein the intermediate routing components and module routing components are ASIC-based routing components (*note: Switch Details are disclosed on page 243 to include five identical data path cards plus one allocator card. Partridge clearly states that developing a field programmable gate array (FPGA)-based allocator that could choose a connection pattern in eight switch cycles was difficult. Instead, the inventor chose to develop an allocator that*

decides in 16 clock cycles and transfers two units in one cycle. The discussion thereat would imply ASIC-based switch cards).

Regarding **claim 5**, in addition to features recited in base claim 2 (see rationales discussed above), Partridge further discloses wherein the number of module routing components is equal to half the number of intermediate routing components (*not shown; inherent in switched fabric*).

Regarding **claim 6**, in addition to features recited in base claim 1 (see rationales discussed above), Partridge further discloses wherein the switch is operable to receive a plurality of modules (*see Fig. 1*).

Regarding **claim 19**, in accordance with Partridge reference entirety, Partridge discloses a method for upgrading the bisectional bandwidth of a network comprising a plurality of devices (line cards), comprising the steps of:

providing a network switch (Fig. 1) operable to communicatively couple the devices (line cards) attached to the network, wherein the network switch comprises a module interface operable to receive a module (*page 243, right column, first paragraph, Partridge discloses "the switch is implemented as five identical data path cards plus one allocator card"*) and wherein the switch comprises a switching fabric (*Fig. 1; Switch*);

providing a module comprising one or more module routing components operable to communicatively couple the devices when the module is received by the network switch, wherein the module comprises at least a portion of the switching fabric;(*switch card discussed on page 243, right column, first paragraph and thereinafter*); and

receiving the module (*switch cards implemented into Switch of MGR depicted in Fig. 1*).

Regarding **claim 20**, in addition to features recited in base claim 19 (see rationales discussed above), Partridge further discloses wherein the network switch further comprises one or more intermediate routing components operable to communicatively couple with the module routing components when the module is received by the network switch (*any other four switch cards*) (*page 243, Switch Details discussion*).

Regarding **claim 21**, in addition to features recited in base claim 20 (see rationales discussed above), Partridge further discloses wherein the module routing components are the same type as the intermediate routing components (*page 243, Switch Details discussion*).

Regarding **claim 22**, in addition to features recited in base claim 20 (see rationales discussed above), Partridge further discloses wherein the intermediate routing components and module routing components are Asic-based routing components (*note: Switch Details are disclosed on page 243 to include five identical data path cards plus one allocator card. Partridge clearly states that developing a field programmable gate array (FPGA)-based allocator that could choose a connection pattern in eight switch cycles was difficult. Instead, the inventor chose to develop an allocator that decides in 16 clock cycles and transfers two units in one cycle.* The discussion thereat would imply ASIC-based switch cards).

Regarding **claim 23**, in addition to features recited in base claim 20 (see

rationales discussed above), Partridge further discloses wherein the number of module routing components is equal to half the number of intermediate routing components (*not shown; inherent in switched fabric*).

Regarding **claim 24**, in addition to features recited in base claim 19 (see rationales discussed above), Partridge further discloses wherein the network switch is operable to receive a plurality of modules (see Fig. 1).

Response to Arguments

3. Applicant's arguments with respect to claims 1-6 and 19-24 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

McKeown et al (USP 6,647,019).

Wilford et al (USP 6,687,247).

McKeown et al, Tiny Tera: A Packet Switch Core, IEEE, pages 26-33, 1997.

PMC-Sierra, Inc., A New Architecture for Switch and Router Design, pages 1-8, 1999.

Turner, Terabit Burst Switching, Progress Report, pages 1-17, 1999.

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this

Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Frank Duong whose telephone number is 571-272-3164. The examiner can normally be reached on 7:00AM-3:30PM, Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema S. Rao can be reached on 571-272-3174. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

FRANK DUONG
PRIMARY EXAMINER

June 20, 2005